Qual-Com Consulting

**A Business Plan Developed for the Formation
of a Proposed Nevada Close Corporation**

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About this Sample Entrepreneur Business Plan:

The following sample *NxLeveL™* Entrepreneur Business Plan was originally written by a class participant, and subsequently modified to protect proprietary information. As it is primarily a student's work, it is not represented to be a "perfect" business plan, although the presentation is in keeping with the *NxLeveL™* format and content. It can be used as a sample of what a business plan might contain, and as a model for constructing the various sections.

Your instructor may ask that you review certain sections and suggest improvements, modifications or additions. The purpose of each individual business plan may be different, with varied intended readers. You may also be asked to discuss what information might need to be included or deleted based on the purpose of the plan.

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Section I. Executive Summary

Mission, Goals and Objectives

Qual-Com Consulting will be a home based, start-up business offering Software Engineering consulting services to the information systems industry in areas of Software Engineering/Quality Assurance for information systems, Disaster Recovery and Contingency Planning, and Computer Security.

Background Information

The Software Engineering Industry is experiencing rapid growth and expansion, especially in the Western Range geographical area. This growth and expansion is expected to continue well into the future. *Qual-Com Consulting* plans to support companies within this industry by providing specific consulting services. These services, while not new, are taking on increased economic importance as companies begin incorporating new and existing technologies into their businesses.

Organizational Matters

Qual-Com Consulting will be set up as a Nevada Close Corporation. The owner/manager will be L. Brice Knownwel. At start-up, the owner/manager will be the only employee, who will also be responsible for performing routine accounting and bookkeeping. An attorney will be consulted for incorporating of this company. Risks for this company is considered low, since the employees will be providing a specialized, contracted service for companies on their own premises, using their equipment.

The Marketing Plan

Qual-Com Consulting will be providing specialized services to the information systems industry. Marketing will be achieved by using a professionally designed Internet website, direct mailing, and direct contact of companies. The services offered are not perceived as being seasonal, and the growth potential is positive. *Qual-Com Consulting*'s services are competitive, and will appeal to most customers in the identified targeted geographic area. These services are not bounded by the targeted geographic area and can be marketed outside of that area.

The Financial Plan

Qual-Com Consulting has enough owner equity to permit one year of operation without needing outside financing. The attached financial tables show a positive return on investment with the potential for expanded growth and development of the company.

Section II. Mission, Goals and Objectives

General Description of Business

Qual-Com Consulting is a small, home based, start-up business offering Software Engineering consulting services to the information systems industry. The services to be offered will be in the following fields:

- **Quality Assurance**, including developing information system specifications, developing software requirements specifications, software design, requirements tracking in construction of software, test planning, test plan development, conducting system testing, configuration management of information systems, and fielding developed information systems.
- **Disaster Recovery and Contingency Planning** for information systems
- **Computer Security**.

As the nearest metropolitan center is Las Vegas, Nevada, the offered services will be primarily directed toward this geographic and technologic market, although this does not preclude offering the services in other geographic areas.

Initially, services will be provided by myself as sole proprietor. As the business grows, I hope to be able to incrementally bring aboard four to six additional consultants and offer more services as the technical base of the company expands.

Mission Statement

Qual-Com Consulting provides professional Software Engineering consulting services to the information systems industry, including the areas of Quality Assurance, Configuration Management, Disaster Recovery and Contingency Planning, and Computer Security.

Goals and Objectives

The first goal of *Qual-Com Consulting* is to establish the business and to be able to sustain the owner. This could be done minimally with 65k of annual business. This would require the owner to develop a solid marketing strategy, pursue new customers, and provide services on new contracts through December, 1998.

The owner's next goal would be to double the bookings each year.   Thus, the objectives for *Qual-Com Consulting* would be to have 130k of annual contracts by December, 1999; to have 260k of annual contracts by Dec 2000, etc. The long term goal for *Qual-Com Consulting* is to achieve 1M worth of annual contracts.

As business expands, *Qual-Com Consulting* would move into larger office space, incrementally hire more consultants, and utilize outside administrative support services.

Section III. Background Information

Personal Information – Owner/Manager's Profile of Skills and Experience

The owner/manager of *Qual-Com Consulting* has a Bachelor's Degree in Electrical Engineering and has worked in Software Engineering for ten years, the last seven of those as a consultant. During this time he has demonstrated the flexibility to adapt to changing situations, persistence, work ethic, technical skills, organizational skills, and communication/people skills required to run a business. His major weaknesses are a basic fear of selling himself and a tendency to disorganized records keeping. The first weakness can be overcome by recognizing and becoming more confident of his abilities; the second can be overcome by establishing records keeping standards and adhering to them.

Owner's Personal Financial Capability Statement

The owner/manager's personal financial capability is such that he has a large enough resource base to support the business endeavors through dry periods. If the business does not succeed on its own, he can fall back to consulting for others either part or full-time.

The Industry

Background Industry Information

Qual-Com Consulting will operate within the software engineering industry. This industry has experienced explosive growth world-wide since the sixties. This trend is expected to continue as computer hardware technology changes, user needs and expectations change, communication networks proliferate, and new applications are addressed by developers. Estimates of the size of the market worldwide vary greatly, and, historically, have been shown to be inaccurate for any point in time. Suffice it to say, as computers permeate the business, home, and technical environments, and as regulations require more accountability, the industry will continue to grow.

Small businesses have played key roles in supporting this sustained growth. Small business, by its very nature, is able to focus on key portions of industry needs. For example, in the late sixties, IBM, then an almost exclusive maker of large mainframe computers, determined that the *total*, world-wide demand for the newly developed Personal Computer was to be 260,000 units. As such, they determined that it was not to their advantage to use their resources to develop an operating system for this, perceived to be, minor segment of their business. IBM farmed this development out to a young upstart, Bill Gates and his startup company, Microsoft. IBM's then perceived need, and their inability to think outside of the "Big Blue" box resulted in the formation of one of the powerhouse software developers in the market, who has been able to challenge even IBM's software development.

While several industry "powerhouses" are evident, the industry is not dominated by them. Surveys conducted by trade magazines (*PC* and *Computing Today*) estimate 76% of software development companies have less than 100 employees. Sixty-four percent of the companies

that use software to support their business have Information Technology departments of less than 35 individuals. Trade publications indicate fields associated with Software Engineering are expanding all the time. Competent individuals within this field are in demand and draw significant salaries. The Las Vegas-Henderson-Boulder City area is attracting significant computer/software industry leaders to their communities. Even Overder is starting to bring in communications/software companies.

Current and Future Trends

Development companies are discovering that current software development practices increasingly do not meet customers needs, do not generate reliable and robust software, generally cost more than originally anticipated, and are expensive to maintain. Development practices characterized by poor requirements definition, "hacked" development, poor user documentation and training materials, inadequate testing, and non-existent process control have been the significant contributors to these problems.

According to the Software Engineering Institute (SEI) of Carnegie-Mellon University, nearly 90% of companies developing software in America today do not have documented, repeatable development processes in place to generate quality software. Of those companies that do have processes in place, 80% do not have metrics to benchmark those processes to determine means for additional cost savings, process refinement, or process improvement.

It is estimated that in America, 20 to 25% of production costs is spent in finding and correcting mistakes. Add the additional costs incurred in repairing or replacing faulty products in the field and the total cost of poor quality may approach 30%. In Japan, known for establishing Dr. J. Edward Deming's statistical Quality processes, the total cost of poor quality approaches 3% (*Quality in America*, V. Daniel Hunt).

A significant factor in the information technology industry today is the Internet. As the Internet permeates homes and businesses throughout the world, security becomes a big concern. The operating systems upon which the Internet was founded were not built with security in mind, only functionality and information transference. All security systems on the Internet exist as add-ons to operating systems, and encryption regimes developed after the fact. Intruders into company systems can delete or corrupt data, at potentially severe risk to the company (as evidenced by the recent Internet hacking of government systems). Still, Internet security is meaningless if corporations do not have security policies and procedures in place, thereby making it possible for proprietary information to walk out the front door. Corporate executives are responsible for safeguarding this information. Their liability in this has been proven in the courts recently when company stockholders have sued company management for not having taken "due diligence" in protecting proprietary information.

As companies invest more in their computing architecture, their operations become more and more contingent upon risky technologies. Inevitably, hardware and software comes from the lowest bidder. As such, added risk is introduced into the business when the software/hardware fails, unless contingencies for this have been factored into their business plan. Unfortunately, most businesses outside of the financial services industry, do not

address these contingencies in a meaningful manner. Most are using policies/procedures implemented when they were only a fraction of their current size, for hardware/software no longer in use, and built on a network architecture that is constantly changing. Most do not consider the threat of the "hundred-year flood" as a danger, as they are located on the twelfth story. Little do they realize their communications are located below ground level, as citizens of Des Moines and Chicago have learned, much too late. Even on a smaller scale, the "crashing" of a critical hard disk drive has the potential of causing great financial damage to any organization that has not planned for this contingency.

Business "Fit" in the Industry

Qual-Com Consulting is not envisioned to develop (i. e. program) software applications. Rather, it is intended to support ongoing software development by providing specific services to the industry with regards to Quality Assurance, Computer Security, and Disaster/Contingency Planning.

Qual-Com Consulting means to fill the need for quality improvement of fielded information systems. It will provide experts in the Quality Assurance field who are able to work within a company's infrastructure to:

- reengineer/develop processes for software development,

- develop information system/software specifications,

- train key individuals in industry approved practices,

- provide software testing services, and

- develop company-specific metrics/measurement systems for benchmarking development activities.

Incorporation of these services are meant to assure cost-effective development processes resulting in robust and user-friendly information systems.

In addition, *Qual-Com Consulting* will provide Computer Security and Disaster Recovery/Contingency Planning services to address work stoppage risks in the workplace. These services are becoming more important to companies as the increased utilization of information technologies by businesses, and the associated risk inherent in those systems, become more widespread.

Section IV. Organizational Matters

A. Business Structure, Management & Personnel

Business Structure

Qual-Com Consulting will be set up as a Nevada Close Corporation. L. Brice Knownwel will be the majority shareholder and act as owner/manager. A family member (currently undesignated) will be the minority shareholder. The advantages of this structure are:

- Limited Liability – Personal assets of the principals are not at risk.

- Ease of Operation – The Close Corporation designation relaxes the stringent reporting requirements for typical corporations.

- Cost of Operation – Close Corporations, because of their relaxed reporting requirements, are administratively cheaper to run.

- Deadlock Prevention – The existence of a majority shareholder able to make uncontested business decisions prevents deadlock.

- Buyout Provisions – Buyout provisions for the shareholders, both majority and minority, are stated in the incorporation documents.

The disadvantages of the Close Corporation structure are:

- Limited Ownership Transfer – By law, the transfer of ownership of the corporation is limited.

- Fewer Capital Sources – A limit of 35 shareholders is associated with a close corporation. This is not really perceived as a problem with this specific business.

- Expensive to Form – The delineation of the Close Corporation charter can be more detailed, thus more expensive, than other business entities, such as the sole proprietorship.

- Annual corporate report filings and fees – The filing of corporate reports and fees is an added burden when compared to other business entities, such as the sole proprietorship.

- Double Taxation – Taxes are collected on corporate profits and personal income. When a corporation declares a dividend (money that is already taxed), the shareholder also has to pay personal income tax on these moneys.

Management

L. Brice Knownwel will act as manager and sole employee of *Qual-Com Consulting* until business expansion occurs. As the business hires more consultants, L. Brice Knownwel will act as manager over them and the contracts they are supporting. At some point, L. Brice Knownwel may stop consulting and become the account manager and marketer for *Qual-Com Consulting*. The resume for L. Brice Knownwel is included in the Appendix. It identifies several years of varied consulting experience, working with clients on application development, Software Quality Assurance (SQA), System Testing, Disaster Recovery and Contingency Planning, and Computer Security.

Personnel

At start-up, *Qual-Com Consulting*'s personnel will consist of only the owner/manager. As business expands, other personnel will be hired to meet the perceived needs of the company, although this company is originally intended to meet the owner/manager's personal business needs.

Outside Services/Advisors

Qual-Com Consulting is currently working with an attorney to provide legal advice for the business. The owner/manager will initially assume bookkeeping and accounting tasks for *Qual-Com Consulting*, until such time as it will be beneficial to the business to transfer these functions to an outside accountant.

In addition, the owner/manager maintains numerous contacts in the business world with whom he will keep contact to act in an advisory capacity with respect to business climate, potential client contacts, services offered, and referrals.

Risk Management

Qual-Com Consulting's employees will be working as consultants on the client's premises. As such, the employees will need personal insurance (group health, life, and disability/worker's compensation) as well as automotive insurance for traveling to the client's premises. As the business expands, the feasibility of a company-provided pension plan will be investigated.

Qual-Com Consulting, as the business, will require Professional Liability and Errors and Omissions insurance to protect itself from possible client litigation for perceived contract non-fulfillment.

Other risks associated with *Qual-Com Consulting*'s ability to do business are results of normal business trends and the recognition of personal risks. A significant business downturn in the information systems business cycle could negatively impact the ability for *Qual-Com Consulting* to obtain and fulfill contracts. This is not considered to be a high risk, considering the current business trends in the area. A significant health issue could impact the ability of the owner/manager to get and fulfill contracts. Considering the excellent health of the owner/manager, this risk is also deemed minor. This risk can be further mitigated by the corporation taking out key-person insurance on the owner/manager.

B. Operating Controls

Record-Keeping Function

The owner/manager of *Qual-Com Consulting* will electronically maintain all records for the business in a secure environment. This will include bookkeeping, accounting, and bill-paying activities. The specific, computerized accounting system has not been selected, as yet. As business expands, these functions may be transferred to an appropriate accountant.

Other Operations Controls

As sole employee, all operations controls will be under the owner/manager of *Qual-Com Consulting*. As business expands, the appropriate delegation of authority will occur.

Section V. The Marketing Plan

A. The Products/Services

Products/Services Description (with Features/Benefits)

Qual-Com Consulting will provide services relating to <u>Quality Assurance</u> of developed software, <u>Computer Security</u>, and <u>Disaster Recovery</u>.

Software Engineering/Quality Assurance
The Software Engineering/Quality Assurance service and associated features/benefits involve:

1. Development of System/Software Requirements Specifications

These requirements specifications are the identified baseline of the information systems to be developed. These specifications identify customer/end-user expectations, system functionality, and platforms and technical architectures on which development is targeted. These specifications are the basis for all future development processes and establish the requirements management needs of the development processes. In too many instances these specifications are not formalized and project development can be adversely influenced by "scope creep" and unrealistic, user-inspired project demands.

"Scope creep" is the situation in which project management decides (and agrees) to include additional functionality into a project after the design/construction has begun. These additional requirements can (and usually do) disrupt project schedules, impact existing design or construction requiring costly retrofitting and incorporation of significant changes to existing systems, and may require significant design changes. Likewise, unrealistic, user-inspired project demands can also work to the detriment of a software project. Without clear, achievable requirements specifications being developed, projects may find themselves in a morass of conflicting user needs, as perceived by project management. The development of a clear, definitive set of requirements specifications allows project management to negotiate software functionality requirements with respect to assets at hand and project time constraints.

2. Test Plan Development

As a direct adjunct to the system requirements, system design, and system construction, the validation of a system requires a definitive test plan, or set of test plans. This assures conformance of the system to specifications and requirements. This plan, and the testing strategy incorporated into it, provides the basis for user validation and verification of the developed system. Approval of this plan prior to the start of formal testing also minimizes the costs of correcting errors found in the system during testing.

3. Software Testing

Software testing describes the activities related to performing the approved System/Software Test Plan and includes those activities involved with developing test scripts (routines that automate the testing procedure), tracking the performance of testing, logging errors or issues encountered during testing, resolving those issues with developers, and repeating testing until complete. This process ensures that the developed system conforms to and incorporates the system/software requirements as stated. Properly performed system/software testing minimizes maintenance costs associated with flawed, fielded software.

4. Process Re-engineering

The development of information systems requires review and reassessment of the business processes supported by the information system. Activities involved in this activity include identification of process re-engineering goals and objectives, existing process capture or definition, analysis of processes involved in the business activity, identification of alternate processes with respect to re-engineering goals and objectives, implementation of approved alternate processes, and review of success/failure of alternate processes.

Client companies benefit from *Qual·Com Consulting*'s core staff of uniquely qualified individuals with extensive experience in applying industry Standards of Quality to business systems. Included in their background are the seminal Quality works of Drs. Deming, Crosby, and Juran. *Qual·Com Consulting* also has personnel knowledgeable in and experienced in applying the following industry standards for system and software development to business systems:

- IEEE Standards for System/Software Development

- Software Engineering Institute's (SEI) Capability Maturity Model (CMM)

- Department of Defense Standards for System/Software Development (2167 A, B, C)

- ISO 9000 Series of International Standards for Quality Engineering

- James Martin's Information Engineering

Computer Security

Qual-Com Consulting services relating to Computer Security include:

1. Business Security and Information System Risk Assessment

This process involves assessing the level of security risk assumed by the targeted information systems and the level of security required to guarantee the systems' integrity.

According to The Wall Street Journal ". . . . The U. S. may be vulnerable to a cyberspace version of the Pearl Harbor attack and should spend more on cybersecurity research, according to a report by a panel of industry and government officials. . . . The recommendations follow a 15-month study of the nation's critical infrastructures – including telecommunication systems, electric power grids and transportation, oil and gas delivery and storage structures, water systems, emergency services, and government services. Among the panel's key conclusions:

- The infrastructure is at serious risk, and the capability to do harm is readily available

- There is no single warning system to protect infrastructures from a concerted attack

- Government and industry don't share information that might give warning of a cyber attack

- Federal research and development budgets aren't funded to study threats to telecommunications systems

These new holes in the nation's security shield stem from the increasing reliance on information systems. . . ."

Private industry shares much of the same problems. In this information age, corporate data is an asset, whether it is proprietary information or internal financial information. Loss or corruption of this data, through failure to give due consideration of the security risks of the information systems involved, can negatively influence a company's bottom line. Corporations are increasingly being made aware of this by their shareholder and competitors filing lawsuits when information is lost or compromised.

2. Development of Business Security Plan/ Procedures

This step follows the assessment of the security condition and needs of the business and produces a deliverable detailing the means of protecting the information assets of the company. Upon management approval of the Plan, staff can be trained in the implementation of these policies.

Client companies benefit from *Qual-Com Consulting*'s core staff of uniquely qualified individuals with extensive experience in assessing security risks of information systems and developing security policies for business or government customers.

Disaster Recovery/Contingency Planning
Qual·Com Consulting services relating to Disaster Recovery/Contingency Planning include:

1. Determine acceptable standards for targeting DisasterRecovery/ Contingency Planning guidelines.

This process identifies the level of disaster planning necessary for the specific business needs of the company. It can be impacted by governing regulations, corporate standards, or the company's perceived level of assumed risk for its information systems.

2. Assess information and business risks

This process involves documenting the existing technical architecture and information systems with respect to business usage and disruption risks under various at risk operating scenarios. This is necessary to establish priorities of key systems for business resumption.

3. Identify appropriate contingency plans for resuming business operations in the event of specified business disruption scenarios.

The Disaster/Contingency Plan is developed for the identified business disruption scenarios and approved by company management. This plan includes recommendations of possible restructuring or re-engineering of technical architecture or information systems that would minimize risks to those systems. Many of the identified disruption scenarios involve developing safe computing practices for day to day use by business staff.

4. Implement Disaster/Contingency Plan

Personnel are trained in their functions with respect to the scenarios determined in the Disaster/Contingency Plan. In some circumstances, the plan is tested under simulated circumstances.

Client companies benefit from *Qual·Com Consulting*'s core staff of uniquely qualified individuals with extensive experience in assessing risks of information systems to business disruptions and developing contingency plans/policies to meet those risks for business or government customers.

Life Cycles/Seasonality

The services provided by *Qual-Com Consulting*, although not new to the industry, are being viewed with increased importance. As customer demands mature, applications must meet higher standards of robustness and utility. To deliver these systems in a cost effective manner, successful companies must reevaluate their traditional methods of developing and maintaining software. This is one niche that *Qual-Com Consulting* fulfills by providing the Software Engineering/Quality Assurance services. As customers depend more and more upon the technology of their information systems and more companies incorporate information technology into their businesses, they assume more and more risk associated with the loss and/or corruption of their data or systems. This is another niche fulfilled by *Qual-Com Consulting*'s Disaster Recovery and Contingency Planning services. As the value of proprietary and internal data is established, the need for security policies involved with protecting that data increases in importance. This is the third niche fulfilled by *Qual-Com Consulting*'s Computer Security services.

As stated above, none of these services are new to the industry. Invariably, though, most companies have neglected to reevaluate their information system development processes and products. The emergence of the Year 2000 problem is indicative of this. Known fatal flaws have existed in code developed in the last 25 years relating to the recognition of the new century. Companies have put off addressing this simple, but very essential, facet of their software products all that time. Only now, are they playing "hurry up" to get this problem addressed and corrected. Unfortunately, the industry itself does not have confidence that all essential systems will be upgraded in time for the century change.

Likewise, disaster recovery planning has not generally been given the full attention it needs. Except for financial institutions, who are regulated severely regarding their reporting requirements, most companies have neglected to keep this planning current with their systems. Insurance providers are recognizing the risks associated from work stoppages or data loss from information system disasters and are reassessing their premiums accordingly. Businesses are beginning to recognize the full economic potential for effective disaster recovery planning.

As data becomes an important economic commodity, the security of that data increases in importance. Thus, the need for companies to clearly define security measures for their data increases in importance. One court case involving the theft of corporate data was lost by the company simply because they had not defined the security parameters of corporate data. Because the propriety of that data was not formally established, it could not be proved that it was not public information. Again, the marketplace is making companies aware of the importance of this oft neglected necessity.

The above services to be provided by *Qual-Com Consulting* are not influenced by seasonality. These services can be requested and implemented at any time of the year. There may be some impact at the end of a company's tax year due to dwindling budget accounts, although some services provided above (i. e. software testing) may be provided as substitute when regular staff are away on vacation or leave.

Services Growth Description

The services listed above may be expanded or diminished at a later date as personnel and customer needs mature. The exact nature of the changes are to be determined.

As new tools for supporting *Qual-Com Consulting*'s service are developed and used by the client customer, it will be necessary to train the consultant's in the methodology and use of the tools. This will be determined as the technology and the new methodology become available.

B. The Market Analysis

Customer Analysis

Qual-Com Consulting is targeted to a corporate customer, although individual or small company needs may be addressed. The Quality Assurance, Computer Security, or Disaster Recovery/Contingency Planning services are best applied to corporations or companies of all sizes.

Qual-Com Consulting's potential customers include those businesses developing or modifying information systems to support specific business needs or rely on information systems to conduct their business. The company can vary between large, multi-national corporations to sole proprietorships with a few employees.

The Quality Assurance services will appeal to the following:

- companies experiencing unexpected delays in fielding planned systems,

- companies not satisfied with the level of quality built into their developed software,

- companies encountering an unacceptable cost level for maintenance of fielded systems,

- companies that need trained personnel to improve their development processes,

- companies needing additional personnel to meet their schedules, or

- companies unsatisfied with the progress of their software development department to achieve certain performance goals.

The Computer Security services will appeal to companies who recognize the security risks associated with their information assets and need to develop polices regarding the security of their data and systems.

The Disaster Recovery/Contingency Planning services will appeal to companies who cannot risk business disruptions due to disruption from outside/internal forces. Insurance companies identify information system risks as a potential liability and structure their rates appropriately. Companies having, and using, their disaster recovery/contingency plans for their information/business systems are assessed at cheaper rates.

Competitive Analysis

Software development companies, and companies modifying off-the-shelf (OTS) software to meet their perceived specific needs, usually have existing QA departments. Their reliability is oft times compromised as a result of inadequate training of staff, invalid or undocumented processes and procedures, and internal policies. Many times the impetus for QA departments is to "pass" applications because the software must be fielded by a specific date established by management and marketing. This usually results in flawed applications being fielded on schedule. Customer dissatisfaction because of inherent "bugginess" of the applications is the result of this lack of attention to quality. It is generally accepted that users should not buy the first release of an application, even from the larger software vendors, as subsequent releases correct the errors from the first release. *Qual-Com Consulting* will provide trained individuals who can assume any portion of the Software Engineering/Quality Assurance process, including training of personnel in industry approved techniques for developing software and data systems within the specific business's constraints.

Computer Security and Disaster Recovery are quickly becoming recognized as important parts of the information systems picture. As such, several large firms specializing in these disciplines are in business. Three of these firms are ComDisco Disaster Recovery Services, SunGard Data Services, and IBM. All have district offices in the Denver-Boulder metropolitan area, which is a strength for them. Generally, they support large mainframe and networked companies to provide them a suite of standardized tools, equipment and services to address their disaster recovery needs. Their hourly prices and quality are high.

Qual-Com Consulting recognizes the importance of disaster recovery planning for smaller PC-based and small network based businesses as well as the larger companies. As such, *Qual-Com Consulting* will compete with the established businesses by being able to meet the needs of the client company in a more economical manner, by initially charging a smaller hourly fee than the larger companies, while providing a comparable level of quality services.

Computer Security has been treated much like disaster recovery planning. Companies have become established or grown without assessing (or reassessing) their security needs. Internet access, increased corporate espionage, and added value of proprietary data have all changed the arena of corporate data security. Many times, internal policies and procedures have not been formalized to account for these changes and, in some cases, have not even been formalized. Computer security is addressed in various ways by existing service companies, but generally in terms of backup and data recovery services, in line with disaster recovery services. Harris Disaster Recovery and Data Security Services is the predominant one in the business, but it does not have a field office in the Denver area. There are governmental entities associated with the Departments of Energy and Defense (CERT, NSA) that assess and advise of security alerts for specific threats, but do not support private industry.

Qual-Com Consulting addresses this need for formalizing computer security policies and procedures for both the private and public sector.

Market Potential

Current Trade Area
Qual-Com Consulting identifies the corridor from Middle Idaho to the Southern tip of Nevada as the main geographic trade area. This area includes the entire state of Nevada including Reno and Las Vegas. This is designated as *Qual-Com Consulting*'s main service area, although there are no reasons to limit its services to this area.

Market Size and Trends
Nevada Business magazine conservatively estimates the size of the information systems services sector to be in excess of $100 million in annual sales. This figure does not include monies spent by companies modifying OTS software to meet their individual business needs. This figure is experiencing dramatic increases as more technology companies move into the trade area. This trend is expected to continue although there seems to be a flattening of the rate of increase of companies coming into the trade area.

Market Potential
New uses for information systems are being devised and implemented daily. Integration of old business systems to modern information systems is ongoing. In light of the previous discussion of *Qual-Com Consulting*'s timeliness of services, the potential for this business is high, as long as the contracts can be found and accomplished according to the customer's needs.

Potential customers can be identified as those:

- developing software for automating business functions for in house applications or resale,
- modifying purchased software for specific applications,
- modifying existing software to meet changing needs (i. e. Year 2000 problems),

- businesses whose business processes depend upon computer equipment, networks, communications, etc.
- businesses having considerable equity tied up in their information systems, peripherals, and proprietary information.

Due to its initial manpower, *Qual-Com Consulting* will be able to handle only one full time customer at a time. As such, it is important to clarify customer contracted goals and objectives for services provided up front. The scope and timelines of the tasks can vary greatly; disaster recovery planning can encompass one or more months full time, developing computer security policies and procedures can take days or weeks, and quality assurance tasks can take days or weeks, depending upon the definition of the work involved.

C. Marketing Strategies

Location

Qual-Com Consulting will be a home-based business. Consulting services will be performed on the customer's site, using their equipment, networks, etc., unless telecommuting arrangements can be negotiated. Accounting, bookkeeping, marketing and other business functions will be done at the residence of the owner/manager.

Price/Quality Relationship

Qual-Com Consulting services will be of high quality service with prices lower than chief competitors, initially. This is to facilitate breaking into this niche of the market and establishing credibility. As business increases, the hourly rates charged will be raised accordingly.

Promotional Strategies

Qual-Com Consulting's image will be projected through the development and design of a professional appearing website on the Internet, the consistent use of an appealing and unique logo (to be designed) on business cards, letterheads, invoices, and direct mailings.

Public Relations
Since *Qual-Com Consulting*'s business serves the information systems service industry sector, there is no plan as yet for utilizing this promotional strategy during the first year of business. This promotional strategy will be reevaluated at the end of the first year of business.

Advertising
Qual-Com Consulting's primary advertising strategy will depend upon an easily accessible, professionally appearing website on the Internet providing a description of services offered, advice for utilizing *Qual-Com Consulting*'s services, and the capability for the potential customer to email specific questions or inquire about *Qual-Com Consulting*'s services.

Secondary to this will be direct mail advertising to Chief Executive Officers (CEOs), Chief Information Officers (CIOs), and/or Chief Financial Officers (CFOs) who may be perceived as having use for my services. This direct mail advertising must be professional in appearance, provide valuable information, and direct potential customers to *Qual-Com Consulting*'s website and postal address/phone number for further follow up. This mailing will provide information relating to the need for disaster recovery planning and success stories, computer security issues, and items on the cost efficiency of good Quality Assurance practices. These mailings will be incorporated into the website for electronic retrieval.

Section VI. The Financial Plan

A. Financial Worksheets

Refer to the following worksheets:

Employee Salaries/Wages & Benefits Worksheet

Outside Services Worksheet

Insurance Worksheet

Advertising Expenses Worksheet

Occupancy Expenses Worksheet

Sales Forecasts Worksheet

Cost of Projected Product Units Sold Worksheet

Fixed Assets Worksheet

Start-up Expenses Worksheet

Existing Debt Worksheet

Miscellaneous Expenses Worksheet

Employee Salary, Wage and Benefits Worksheet

	1	2	3	4	5	6	7	8	9	10	11	12	
Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	TOT
Employee Title													
Consultant	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	21600

Outside Services Worksheet

	WHO	COST/month	COST/year
Accountant		100	1200
Lawyer			
Banker			
Insurance Broker			
Other Key Outsiders			
Secretarial			
Maintenance			
Janitorial			
Other:			
Other:			
Other:			
Total Monthly Cost		100	
Total Annual Cost			1200

Insurance Worksheet

Types of Insurance	Required	Type/Coverage	Annual Cost
Protecting Your Business			
General Liability			500
Product Liability			
Completed Operations			
Errors/Omissions	(x)		5000
Professional Liability	x		500
Automobile Liability	x		
Fire and Theft			
Business Interruption			
Fidelity Bonds			
Surety Bonds			
Protecting Yourself			
Personal Disability	x		2400
Key-Person	x		1200
Life Insurance	x		240
Medical	x		1680
Protecting Your Employees			
Group Health			
Life Insurance			
Pension Plan			
Workers' Compensation			
		TOTAL ANNUAL COST	11520

Assumptions:
Assumes no other employees
Error/Omissions includes Professional Liability
General Liability includes Product Liability and Completed Operations

Advertising Expenses Worksheet

	Months	1	2	3	4	5	6	7	8	9	10	11	12	Yearly
		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
1	Direct Mail-Design Costs	200	100	0	0	0	0	0	0	0	0	0	0	300
2	Print / Postage	0	100	100	100	0	100	0	100	0	100	0	100	700
	TOTAL	200	200	100	100	0	100	0	100	0	100	0	100	1000

Assumption:
Direct mail piece developed for CEOs, CFOs and CIOs to direct potential customers to website.

Occupancy Expenses Worksheet

	Months	1	2	3	4	5	6	7	8	9	10	11	12	Yearly
		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
1	Rent Payments	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	12000
2	Prop. Taxes													0
3	Mntnce & Repairs													0
4	Electric	20	20	20	20	20	20	20	20	20	20	20	20	240
5	Gas													0
6	Water & Sewer													0
7	Telephone	100	100	100	100	100	100	100	100	100	100	100	100	1200
8	Garbage													0
9	Other													0
10														0
11														0
12														0
	TOTALS	1120	1120	1120	1120	1120	1120	1120	1120	1120	1120	1120	1120	13440

Assumption:
Occupancy Expenses include lodging away from home/primary office.

Sales Forecast Worksheet

	1	2	3	4	5	6	7	8	9	10	11	12	Yearly
Months	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Service:	**Disaster Recovery**												
Units Sold	50	50	50	50	50	50	50	50	50	50	50	50	600
Price/Unit	65	65	65	65	65	65	65	65	65	65	65	65	65
Total Sales	3250	3250	3250	3250	3250	3250	3250	3250	3250	3250	3250	3250	39000
Service:	**Computer Security**												
Units Sold	20	20	20	20	20	20	20	20	20	20	20	20	240
Price/Unit	65	65	65	65	65	65	65	65	65	65	65	65	65
Total Sales	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300	15600
Service:	**Software Engr./ Quality Assur.**												
Units Sold	10	10	10	10	10	10	10	10	10	10	10	10	120
Price/Unit	65	65	65	65	65	65	65	65	65	65	65	65	65
Total Sales	650	650	650	650	650	650	650	650	650	650	650	650	7800
Total Hrs	80	80	80	80	80	80	80	80	80	80	80	80	960
Total Sales	5200	5200	5200	5200	5200	5200	5200	5200	5200	5200	5200	5200	62400

Assumptions:
Units sold each month is based on 80 hours billed per month.
Seasonal fluctuation of units sold is not applicable.
Price per unit is based on going rate and Break-Even Analysis.
Of the sales indicated, 100% will be billed (charge) sales.
Terms of charge sales are: Net 30 (billed weekly) + 15% late charge

Fixed Assets Worksheet

New Purchases:						
List of Fixed Assets	New or Used	Cost	Acquisition Date	Useful Life (in Months)	Monthly Depreciation	Annual Depreciation
Software	New	2000	1/98	36	55.56	666.67
	TOTAL COST:	2000	TOTAL FIXED	ASSETS Depreciation	55.56	666.67

Summary	Cost	Monthly Depreciation	Annual Depreciation
New FA	2000	55.56	666.67
Existing FA	0	0	0
Total FA	2000	55.56	666.67

Start-up Expenses Worksheet

		Cost
A.	**Cash Available Now**	35000
1	Purchase fixed assets	2000
2	Remodeling costs	0
3	Installation fees	100
4	Deposits	100
5	Fees and Licenses	1000
6	Legal Fees	500
7	Accounting Fees	500
8	Insurance	
9	Pre-opening labor expense	
10	Pre-opening training costs	
11	Beginning inventory	
12	Supplies (Letterhead, etc.)	100
13	Promotion	
14	Advertising	
15a	Other Expenses:	
15b		
15c		
B.	**Total Start-up Expenses**	4300
C.	**(A-B) Beginning Cash Balance or Additional Cash Required ( )**	**30700**

Assumptions:
1. Expense for business software
3. Internet access, phone listing, 2nd phone line
4. Computer lease deposit
5. Incorporation costs
6. Legal costs to set up corporation
7. Accountant fees for setup
12. Letterhead/business cards

Note: Item C. Beginning Cash Balance of $30700 is carried forward to
Beginning Cash Balance 1. (A) on Monthly Cash Flow Projection – Year One.

Existing Debt Worksheet

	1	2	3	4	5	6	7	8	10	10	11	12	10
Months	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**July**	**Aug**	Sept	**Oct**	**Nov**	**Dec**	Year Total
Principal Payments (list source of debt)													
1													
2													
3													
4													
5													
6													
Total Principal	0	0	0	0	0	0	0	0	0	0	0	0	0
Interest Payments (list source of debt)													
1													
2													
3													
4													
5													
6													
Total Interest	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Principal + Interest Payments	0	0	0	0	0	0	0	0	0	0	0	0	0

Miscellaneous Expenses Worksheet

Months	1 Jan	2 Feb	3 Mar	4 Apr	5 May	6 June	7 July	8 Aug	9 Sept	10 Oct	11 Nov	12 Dec	Yearly Total
Miscellaneous Expense Items													
1. Bad Debt													0
2. Car/Delivery	50	50	50	50	50	50	50	50	50	50	50	50	600
3. Supplies						100							100
4. Training													0
5. Other:													0
6. Professional Dues												200	200
7. Internet Access	25	25	25	25	25	25	25	25	25	25	25	25	300
8. Computer Rental	125	125	125	125	125	125	125	125	125	125	125	125	1500
													0
													0
													0
Totals	200	200	200	200	200	300	200	200	200	200	200	400	2700

B. Cash Flow Projections

Break Even Analysis

The following break even analysis was made for *Qual-Com Consulting*'s Services:

Total Sales		62,400
Cost of Product Units Sold	(-)	0
Gross Margin	(=)	62,400
Variable Operating Expenses	(-)	
Contribution Margin	(=)	62,400

Because *Qual-Com Consulting* is offering a service and does not have a Cost of Product Units Sold, the Contribution Margin is the same as the Total Sales.

Contribution Margin Percentage:

Contribution Margin/Total Sales = 62,400/62,400 = 100%

Fixed Operating Expenses (from Monthly Projected Income Statement – Operating Expenses)

Fixed Operating Expenses = (52,127 minus 667 depreciation) = $51,460

Break-even Point in Dollars of Sales (BEP Dollar Sales Level)

Fixed Operating Expenses/Contribution Margin % = 51,460/1 =$51,460

Break-even Point in Units of Sales (BEP Unit Sales Level)

BEP Dollar Sales Level/Unit Selling Price = 51,460/65 = 791.7 Units

This analysis shows the BEP Unit Sales Level is 791.7 units (billable hours). Sales projections are computed for 80 billable hours/month = 960 billable hours per year. The BEP Unit Sales Level is achievable using this analysis.

Monthly Cash Flow Projections – Year One – Additional Notes

Monthly cash flow projections for the first year of operations for *Qual-Com Consulting* follows. Start-up expenses have been projected on a separate worksheet in Part A and those expenses are included in the balance brought forward into this cash flow projection as Beginning Cash Balance.

All other line-item expenses are generated from prior Worksheets. See those Worksheets for assumptions. See Sales Forecast Worksheet for sales assumptions.

Monthly Cash Flow Projection – Year One

Months	1 Jan	2 Feb	3 Mar	4 April	5 May	6 June	7 July	8 Aug	9 Sept	10 Oct	11 Nov	12 Dec	Yearly Total
1. (A) Beginning Cash Balance	30700	26320	27140	28060	28980	30000	30820	31840	32760	33780	34700	35720	30700
Cash Receipts													
2. Cash Sales	0	0	0	0	0	0	0	0	0	0	0	0	0
3. Collect A/R		5200	5200	5200	5200	5200	5200	5200	5200	5200	5200	5200	57200
4. Sale of Fixed Assets													0
5. Miscellaneous Income													0
(B) Total Cash Receipts	0	5200	5200	5200	5200	5200	5200	5200	5200	5200	5200	5200	57200
Cash Disbursements													
6. Cash Purchases (Merchandise)													0
7. Pay Accounts Payable													0
8. Salaries/Wages & Benefits	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	21600
9. Owner Draws													0
Non-Labor Expenses:													0
10. Outside Svcs	100	100	100	100	100	100	100	100	100	100	100	100	1200
11. Insurance	960	960	960	960	960	960	960	960	960	960	960	960	11520
12. Advertising	200	200	100	100	0	100	0	100	0	100	0	100	1000
13. Occupancy Expenses	1120	1120	1120	1120	1120	1120	1120	1120	1120	1120	1120	1120	13440
14. Misc.Expenses	200	200	200	200	200	300	200	200	200	200	200	400	2700
15. Purchase of Fixed Assets	Pre-start												0
16. Debt Payt Old	0	0	0	0	0	0	0	0	0	0	0	0	0
(C) Total Cash Disbursements	4380	4380	4280	4280	4180	4380	4180	4280	4180	4280	4180	4480	51460
													0
Net Cash Flow (B-C)	-4380	820	920	920	1020	820	1020	920	1020	920	1020	720	3740
Adjustment to Net Cash Flow													
17. (+) New Debt													0
18. (+) New Owner Investment													0
19. (-) New debt-Interest Paymts													0
20. (-) New Debt-Principal Paymts													0
21. (-) New Owner Withdrawals													0
(D) Adjusted Net Cash Flow	-4380	820	920	920	1020	820	1020	920	1020	920	1020	720	3740
Ending Cash Balance (A+D)	26320	27140	28060	28980	30000	30820	31840	32760	33780	34700	35720	36440	36440

Annual Cash Flow Projections – Years Two and Three

The following annual cash flow projections for years two and three are included. No projections for doubling of sales as identified in the goals and objectives have been identified in this section. A 10% per year increase of expenses has been included in the projections.

Cash Flow Projections – Years Two and Three

Year Two	Yearly Total
1. (A) Beginning Cash Balance	**36440**
Cash Receipts	
2. Cash Sales	
3. Collect Accounts Receivable	62400
4. Sale of Fixed Assets	
5. Miscellaneous Income	
(B) Total Cash Receipts	**62400**
Cash Disbursements	
6. Cash Purchases	
7. Pay Accounts Payable	
8. Salaries/Wages & Benefits	21600
9. Owner Withdrawals	
Non-Labor Expenses	
10. Outside Services	1200
11. Insurance	12672
12. Advertising	1100
13. Occupancy Expenses	14784
14. Miscellaneous Expenses	2970
15. Purchase of Fixed Assets	
16. Debt Payment-Old	
(C) Total Cash Disbursements	**54326**
Net Cash Flow (B-C)	**8074**
Adjustments to Net Cash Flow	
17. (+) New Debt	
18. (+) New Owner Investment	
19. (-) New Debt-Interest Payments	
20. (-) New Debt-Principal Payments	
21. (-) New Owner Withdrawals	
(D) Adjusted Net Cash Flow	**8074**
Ending Cash Balance (A+D)	**44514**

Year Three	Yearly Total
1. Beginning Cash Balance	**44514**
Cash Receipts	
2. Cash Sales	
3. Collect Accounts Receivable	62400
4. Sale of Fixed Assets	
5. Miscellaneous Income	
(B) Total Cash Receipts	**62400**
Cash Disbursements	
6. Cash Purchases	
7. Pay Accounts Payable	
8. Salaries/Wages & Benefits	21600
9. Owner Withdrawals	
Non-Labor Expenses	
10. Outside Services	1200
11. Insurance	13939
12. Advertising	1210
13. Occupancy Expenses	16262
14. Miscellaneous Expenses	3267
15. Purchase of Fixed Assets	
16. Debt Payment-Old	
(C) Total Cash Disbursements	**57478**
Net Cash Flow (B-C)	4922
Adjustments to Net Cash Flow	
17. (+) New Debt	
18. (+) New Owner Investment	
19. (-) New Debt-Interest Payments	
21. (-) New Debt-Principal Payments	
21. (-) New Owner Withdrawals	
(D) Adjusted Net Cash Flow	4922
Ending Cash Balance (A+D)	49436

C. Financial Statements

The following projected statements for *Qual-Com Consulting* are included in this section:

Projected Income Statement

Balance Sheet

Statement of Owner's Equity

Projected Income Statement

This statement shows the projected sales, operating expenses, and total operating expenses computed on a monthly basis. No cost of Product Units Sold is assigned, as the units sold are billable hours.

This statement shows a net profit before taxes of no less than $764 monthly after operating expenses have been deducted. Total yearly net profits before taxes equal a total of $11473 (projected).

Balance Sheet (Current and Projected)

These balance sheets reflect the current and projected assets of *Qual-Com Consulting* as of 1/1/98 and 1/1/99. Current assets for 1/1/98 cash balance reflects the beginning cash balance after fixed assets and start-up costs are deducted. Fixed assets include business software identified on the fixed assets worksheet in (A) and reflect appropriate depreciation in the projected balance sheet. A numerical value of 1 has been inserted into the Accounts Payable field of both balance sheets to prevent division by zero errors when computing the current ratio and quick ratio. As with most service providers with no debt or liabilities, the current and quick rations are meaningless.

Statement of Owner Equity

This statement reflects the projected positive growth of owner's equity after the first year of business. The Beginning Retained Earnings is taken from the Balance Sheet for the current year; net income is from the Monthly Cash Flow Projection.

Monthly Projected Income Statement – Year One

Months	1 Jan	2 Feb	3 Mar	4 April	5 May	6 June	7 July	8 Aug	9 Sept	10 Oct	11 Nov	12 Dec	Yearly Total
Sales	5200	5200	5200	5200	5200	5200	5200	5200	5200	5200	5200	5200	62400
Cost of Prod,Units Sold													0
Gross Margin	5200	5200	5200	5200	5200	5200	5200	5200	5200	5200	5200	5200	62400
Operating Expenses													
Sal./Wages & Benefits	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	21600
Non-Labor Expenses:													0
Outside Services	100	100	100	100	100	100	100	100	100	100	100	100	1200
Insurance	960	960	960	960	960	960	960	960	960	960	960	960	11520
Advertising	200	200	100	100	0	100	0	100	0	100	0	100	1000
Occupancy Expenses	1120	1120	1120	1120	1120	1120	1120	1120	1120	1120	1120	1120	13440
Miscellaneous Expenses	200	200	200	200	200	300	200	200	200	200	200	400	2700
Depreciation	56	56	56	56	56	56	56	55	55	55	55	55	667
Interest-Old Debt													0
Interest-New Debt													0
Total Operating Expenses	4436	4436	4336	4336	4236	4436	4236	4335	4235	4335	4235	4535	52127.6667
Net Operating Profit	764	764	864	864	964	764	964	865	965	865	965	665	10273.3333
Other Gains/(-Losses)													0
Net Profit/(Loss) before Taxes	764	764	864	864	964	764	964	865	965	865	965	665	10273.3333
Owner Withdrawals													

Comparative Balance Sheet – Years One and Two

Balance Sheet

(Current)

Prepared as of : 1/1/98	
Assets	
Current Assets	
Cash	30700
Accounts Receivable	
Inventory	
Other Current Assets	
Total Current Assets	30700
Fixed Assets	
Land	
Buildings (less acc. depr.)	
Equipment (less acc. depr)	
Other fixed assets	2000
Total Fixed Assets	2000
(A) Total Assets	32700
Liabilities	
Current Liabilities	
Accounts Payable	0
Other Current Liabilities	
Total Current Liabilities	0
Long-Term Liabilities	
Debt	
Other Long-term Liabilities	
Total Long-term Liabilities	0
(B) TOTAL LIABILITIES	0
(A-B) OWNER'S EQUITY	32700

Balance Sheet

(Projected)

Prepared as of : 1/1/99	
Assets	
Current Assets	
Cash	36440
Accounts Receivable	5200
Inventory	
Other Current Assets	
Total Current Assets	41640
Fixed Assets	
Land	
Buildings (less acc. depr.)	
Equipment (less acc. depr)	
Other fixed assets	1333
Total Fixed Assets	1333
(A) Total Assets	42973
Liabilities	
Current Liabilities	
Accounts Payable	0
Other Current Liabilities	
Total Current Liabilities	0
Long-Term Liabilities	
Debt	
Other Long-term Liabilities	
Total Long-term Liabilities	0
(B) TOTAL LIABILITIES	0
(A-B) OWNER'S EQUITY	42973

**Incorporated Business Statement of Owner's Equity
for the Year Ended 1998**

Beginning Retained Earnings	32700
(+) Net Income	10273
(-) Dividends	
(=) Ending Retained Earnings	42973

D. Additional Financial Information

Summary of Financial Needs

Currently, the owner/manager has sufficient funds to invest in this business to cover start-up costs, fixed asset purchases, and to operate the business. One hundred percent of these costs will come from owner investment funds. Although the start-up funds available are more than required, this will help to "buffer" the business if projected sales do not meet expectations.

Personal Financial Statement

A copy of the Personal Financial Statement for the owner/manager follows:

(Note: This information has been deleted as proprietary information for purposes of this sample business plan.)

Section VII. Appendix

Resume of Owner/Manager

L. BRICE KNOWNWEL   2000 Homebly Ave., Suite 14
Stonethrow, NV 02001
(000) 555-5050

PROFESSIONAL EXPERIENCE SUMMARY: Varied experience in all aspects of software engineering including management, client interface, application of reengineering principles to business processes, application of Information Engineering and Software Engineering Institute's Capability Maturity Model (CMM) principles to business / system development, application development, Quality Assurance and testing methodologies, Software Configuration Management, development of computer security policy, plans and procedures, development and exercising of Disaster Recovery Plans.

PROFESSIONAL WORK HISTORY:

September, 1996 to June, 1997:

Employer: Source Consulting, 7730 East Belle Avenue, #302,
Engles, NV 00111
Position: Consultant for Systems Testing and Quality Assurance
Client: Boston Chicken, Inc., Arlo, Tx
Joe Morgest, Pat Leese: Client Managers; Pam Spooler, Source
Consulting Manager

Position Summary: Working under Systems Development, responsible for system testing of procured and in-house developed systems, software configuration management of those systems, and their staging and integration. Interacted with Department Directors, vendors, and other development personnel. While working with the Quality Assurance group, I was responsible for test development and QA testing of systems to be staged in nationwide market. Acted as lead for design and use of systems and processes developed to ensure data integrity of data being sent to 1500 stores on a nightly basis. Interacted with Department Directors, developers, help desk personnel, trainers, and data administration groups.

Environments: IBM PC, Microsoft Windows, Windows 95, Lotus Notes, DOS
Databases: Access
Applications: Lotus Notes, Access for Windows, Excel, ReMACS

March, 1994 to September , 1996
Employer: NSRI, Creeksland IN, 263 Redard Pl., Suite 13, Fort Farms, NV
00520
Position: Information Resource Management (IRM) Manager
Client: Western Area Power Administration (WAPA), Fort Farms, NV
Tom Keans WAPA Task Order Manager, Will Clampett, NSRI Vice-

President

Position Summary: Developed plans and policies relating to WAPA's Computer Security, Auditing and compliance, Disaster Recovery and Contingency Planning, long-range planning, risk assessment, computer security awareness and training in support of HP-9000 and Novell managed network. Managed staff for Acquisitions, Log-In Administration, and Technical Writing support functions. Reengineered processes in all above areas for streamlining and cost effectiveness, without sacrificing mission goals and objectives. Designed and developed databases and information retrieval systems to support the above functions.

Environments: IBM PC, DOS Microsoft Windows, UNIX, Novell 3.x, 4.x, HP-UNIX
Databases   Oracle, Access
Applications WordPerfect, 5.x 6.x, Excel 4.x, 5.x, Business Objects, Groupwise 4.x,
        WordPerfect Office

August, 1991 to March, 1994
Employer: RSA Companies, Endsville, CO
Position: Software Engineering Consultant
Client: Oatsview Public Power District, Oatsview NE
        Mark Potts, Betty Michelle, Managers; Bob Furdee, RSA Manager

Position Summary: Provided software engineering and administrative expertise in support of data processing activities for nuclear and coal-fired utility with respect to state and Federal regulations and company directives. Integrated Information Engineering methodology for enterprise/system modeling and use of Computer Automated Software Engineering (CASE) tools into development process. Developed standards for Software Quality Assurance and Configuration Management. Trained company executives and department managers in Software Engineering/IE/Reengineering methodologies and testing methods.

Environments: IBM PC, IBM 3090, VAX, DOS, Microsoft Windows, UNIX
Databases: Oracle
Applications: *IEF*, Word Perfect, Excel Oracle Mail*, Information Engineering*
        Methodology by James Martin and Associates

January, 1988 to August, 1991
Employer: Texas Instruments, Inc., Cornville, CO (later moved to Larksville,
        TX)
Position::   Systems Engineer, Electronic Warfare Systems, Defense Systems and
        Electronics Group (DSEG), Bob Martin and Bart Couvre, Supervisors

Position Summary: Supported all phases of development of embedded, real-time, interrupt-driven systems for Department of Defense customer, including project management, contract negotiations, systems design and development, software design and development, manufacturing, automated testing/troubleshooting, and technical support. Developed automated hardware/software test plans and procedures in HP environment. Integrated

Structured Methodologies and Object Orientation into development methodology. Developed suite of tools to automate generation of DOD 2167A System Software Specifications and support documentation. Applied Software Engineering Institute's Capability Maturity Model principles to program to assess maturity of development processes. Documentation was included in DSEG's successful solicitation for the Malcolm Baldridge Quality Award. Used logic analyzers and in-circuit emulation tools for code analysis and debug.

Environments: IBM PC, VAX, DOS, HP-UNIX
Databases: Oracle
Applications: Samna (AmiPro), Excellerator (CASE tool), Excel, SPICE, I2ICE
                  (in circuit emulation tool), TI proprietary applications
Analysis: Structured Analysis and Design, Object Oriented Design, Software
                  Engineering Institute's Capability Maturity Model

Other Experience: Consultant for legal, food and beverage, lodging, and farm and ranch tracking and accounting systems, Mariculture research, resort maintenance, accounting, Graphic Arts, and construction contracting.

Education: BSEE, Electrical Engineering, University of Nevada
                  BA, English, University of Nevada

Clearances: DoD - Secret (no longer current)

Excellent References on Request